

CTC COIL TECHNOLOGY CORPORATION

130V HIGH VOLTAGE ADJUSTABLE BHV-12130A SERIES 5W REGULATION

Features:

- 5 Watts DIP 24 package.
- Remote voltage programming 60V to 130V
- High isolation 3000Vdc.
- Short circuit protection-continuous.
- Low profile case H=9.4 mm
- SMD Design
- Custom solution available.

ELECTRICAL SPECIFICATIONS:

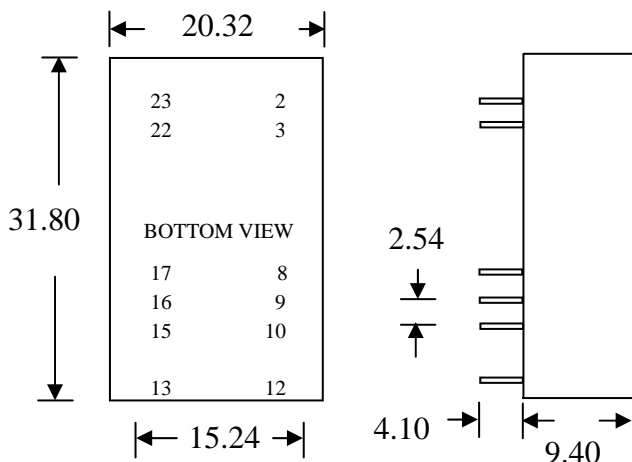
- Input voltage range ----- 12 Vdc \pm 10%
- Rated power ----- 5 Watts Max
- Isolation voltage ----- 3000Vdc Min
- Ripple&noise/20MHZ BW ----- 100mV P-P Max.
- Line regulation ----- \pm 0.2%
- Load regulation (20% ~ 100% load)----- \pm 0.3%
- Operating frequency ----- 200KHz Typ.
- Short circuit protection ----- Continuous.
- Short circuit restart ----- Automatic.
- Operating temperature range ----- -40°C to 85°C
- Storage temperature range ----- -50°C to 125°C
- Efficiency ----- 80% Min.
- Isolation resistance ----- 1G Ω Min.
- Isolation capacity ----- 20pF Typ.



Selection Guide

Order Code	Input Range (VDC)	Output Range (VDC)	Output Current (mA)
BHV-12130A	10.0~14.0	60V~130V	50mA (MAX 5W)

Package Style And Pinning (mm)



PIN	FUNCTION
2,3	-VIN (GND)
8,17	Vadj
9,16	Vref
10,15	-Vout (COM)
11,14	NC
12,13	+Vout
22,23	+Vin (VCC)

TOL. : \pm 0.25mm

UNIT : mm

Electrical characteristics (Refer to the test circuit , $V_{in} = 12V$; $T_a = 25$)

Symbol	Parameter	Description	Min	Typ	Max	Unit
Input Specifications						
V_{in}	Input voltage range	BHV-12130A	10.8	12	13.2	V
Output specifications						
V_o	Voltage accuracy	$V_o = 60V$ (Min) , $130V$ (Max)			± 5	%
V_o	Voltage adjustment range	$V_{adj} = 0V$ to $4V$	60		130	V
		$V_{adj} = open$		105		V
I_o	Output current & Max output power	$V_o = 60V$ to $100V$ (1)	0	50	55	mA
P_o		$V_o = 100V$ to $130V$ (2)	0	5	5.5	Watt
I_{in}	Short protection	Continuous		25		mA
	No - load	$V_o = 60V$ to $130V$		25		mA
	Ripple & noise	20 MHz Bandwidth		60	100	mV
	Switching frequency	(1) & (2) Conditions		200		KHz
	Line regulation	$V_{in} = 21.6V$ to $26.4V$			0.2	%
	Load regulation	Load variable 20% ~ 100%			0.3	%
General specifications						
	Temperature range	Operating (3)	-25		85	
		Storage	-50		125	
	Efficiency	(1) & (2) Conditions	80		86	%
	Isolation voltage	Input / Output	3000			V_{DC}
	Isolation resistance	Input / Output	10^6			

Note : (1) $V_o = 60V$ to $100V$ output current $I_o < 55mA$

(2) $V_o = 100V$ to $130V$ output power $V_o \times I_o \leq 5$ Watt

(3) See figure 5 thermal derating charts

BHV-12130A Pin Functions

Pin	Name	Description
22 , 23	+Vin	DC Input (+)
2 , 3	-Vin (GND)	DC Input (-)
8 , 17	V _{ADJ}	Input pin , to control the output voltage from 60V to 130V . Have two kinds to control it. (1) With voltage generator – see Figure 1 (2) With VR – see Figure 2
9 , 16	V _{REF}	Output pin , when with the external VR(5K) to control the Output voltage that can use this Pin . See block diagram , this Pin internal series a resistor (1K) connected to +5V regulator.
10 , 15	-Vout (COM)	Output COM
12 , 13	+Vout	Output , 60V to 130V adjustable
		Primary Pin 2 , 3 , 22 , 23 and Secondary Pin 8 , 17 , 9 , 16 , 10 , 15 , 12 , 13 are isolated

Figure 1 : Test Circuit for remote control by voltage generator

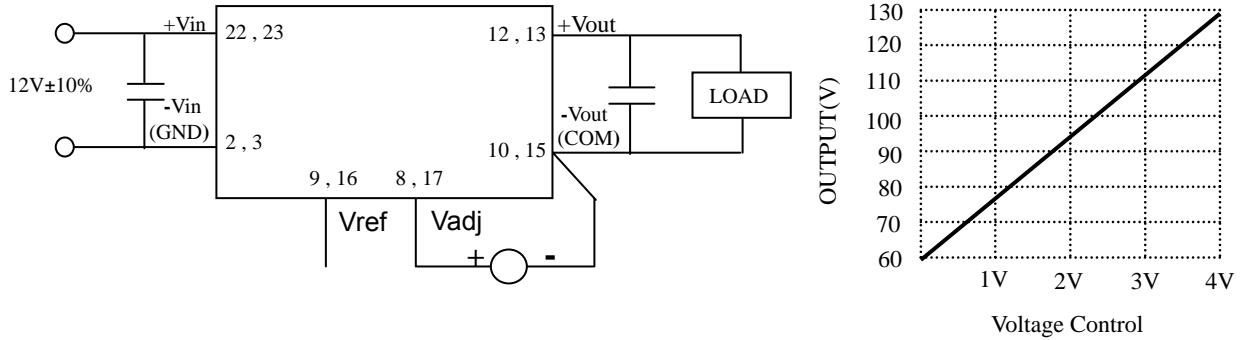


Figure 2 : Test Circuit for remote control by variable resistor

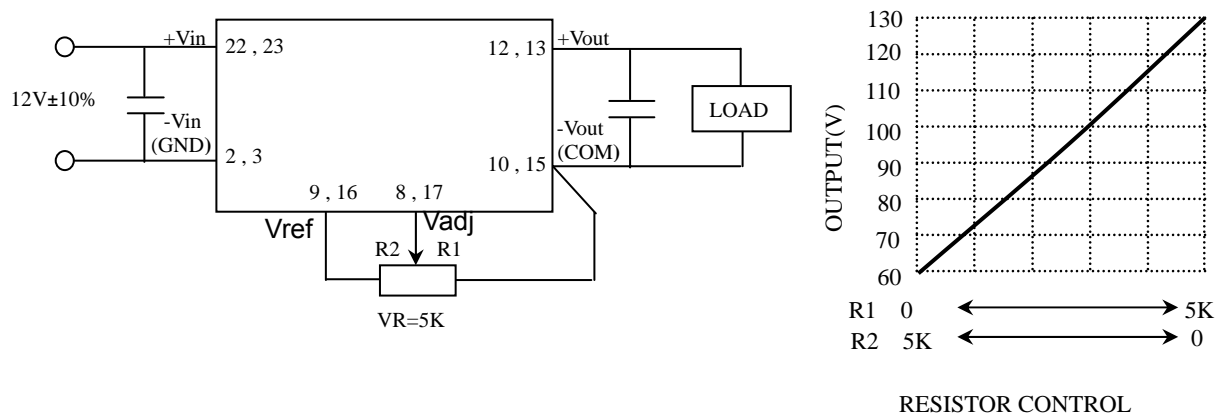


Figure 3 : Output current vs output voltage

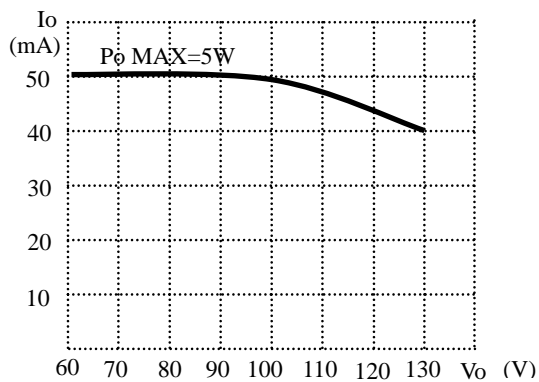


Figure 4 : Efficiency vs output voltage

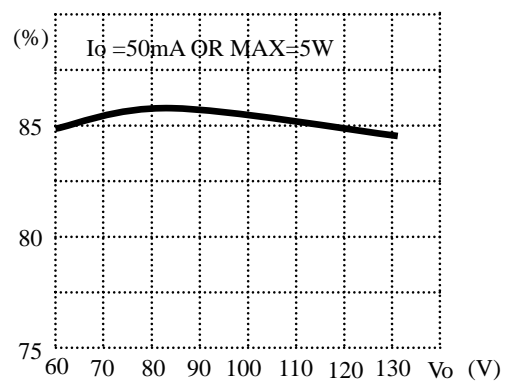
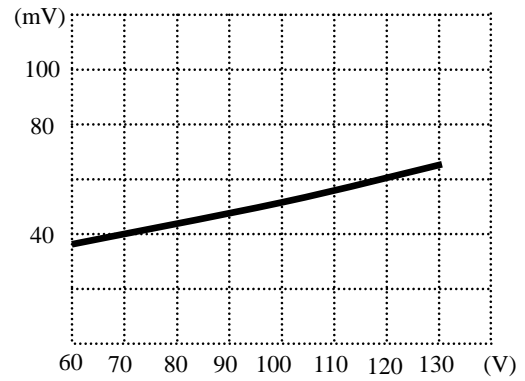
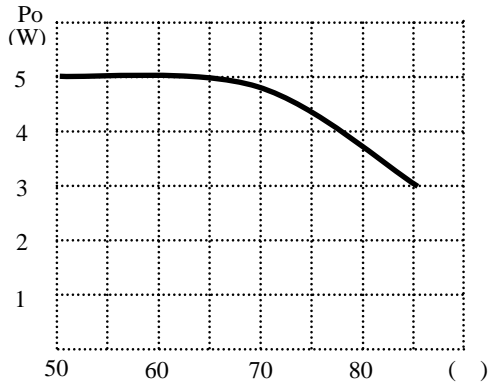


Figure 5 : Output power vs temperature

Figure 6 : Output ripple vs output voltage



Block diagram

